α-Truxillic Acid
Item No. 14865

CAS Registry No.: 490-20-0
Formal Name: (1α,2α,3β,4β)-2,4-diphenyl-1,3-cyclobutanedicarboxylic acid
Synonym: Gratissimic Acid
MF: C_{18}H_{16}O_{4}
FW: 296.3
Purity: ≥98%
UV/Vis.: λ_{max}: 259 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Labroatory Procedures

α-Truxillic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the α-truxillic acid in the solvent of choice. α-Truxillic acid is soluble in organic solvents such as DMSO and dimethyl formamide, which should be purged with an inert gas. The solubility of α-truxillic acid in these solvents is approximately 20 and 16 mg/ml, respectively.

α-Truxillic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, α-truxillic acid should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. α-Truxillic acid has a solubility of approximately 0.07 mg/ml in a 1:12 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

α-Truxillic acid can be formed by the dimerization of two molecules of α-trans-cinnamic acid. It is related to incarvillateine, a natural antinociceptive compound derived from the Asian herb I. sinensis. α-Truxillic acid and some of its derivatives significantly block inflammatory pain while having little effect on neurogenic pain, as indicated by the formalin test in mice. Related compounds, like SB-FI-26 (Item No. 14191), bind fatty acid binding protein 5 (FABP5). This may be related to pain suppression, since FABP5 acts as a transporter of the endocannabinoid anandamide. While certain derivatives of α-truxillic acid can directly activate peroxisome proliferator-activated receptor γ, α-truxillic acid has no such activity.

References